Geometrical Frustration: Opportunities for Neutron Scattering and Modeling

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Abstract

Geometrically frustrated magnets offer model systems incorporating an extreme degree of anharmonicity. Our deepening understanding of the phenomenology of such systems has not been matched by advances in analytic theory. Here we present an overview of the basic ideas and recent results which further constrain theory. The physics of such materials offers important opportunities for modeling of highly anharmonic systems. Similarly, neutron scattering is a probe whose flexibility is essential for understanding microscopic processes. These ideas will be illustrated by bulk thermodynamic measurements.